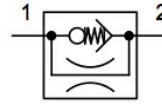


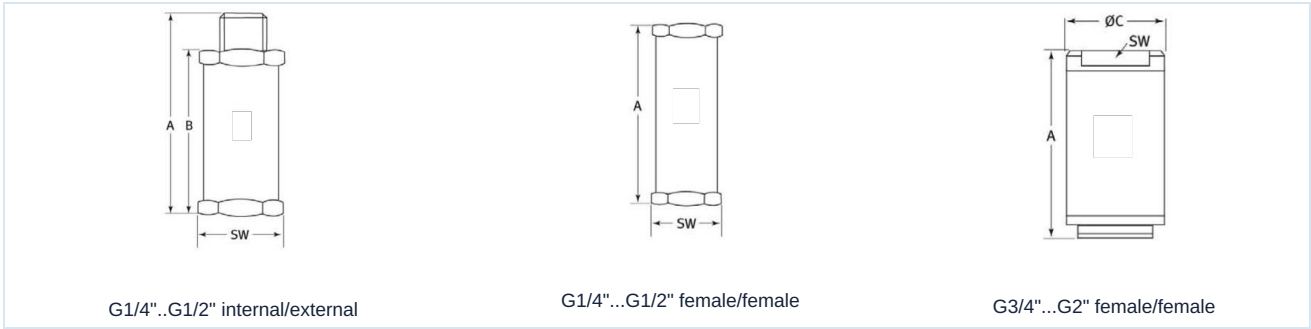
Hose rupture safety valve Series HB



| | |
|--------------------|---|
| Design type | Hose rupture safety valve after EN ISO 4414, protects personnel and the working environment from possible damage caused by bursting of a compressed air system or hose, operation- and adjustment-secured, TÜV test mark 01-02-0145 |
| Function | If damage occurs due to hose or pipe rupture, the system immediately throttles the flow down to a small residual flow rate. Undamaged parts of the compressed air network remain under pressure. The affected segment or the hose can be replaced safely. After maintenance, the residual flow slowly refills the affected segment to the operating pressure level. As soon as this level is reached again, the system reopens the line for normal operation. |
| Connection | G1/4"...G2" female/female or rather G1/4"...G1/2" internal/external according to ISO228/1 |
| Materials | Body Aluminium, Piston POM (G1/4"...G1/2") or rather Aluminium (G3/4"...G2"), Spring Stainless steel, Seals NBR |
| Application range | filtered compressed air |
| Medium temperature | for G1/4"...G1/2": -20...+80°C for G3/4"...G2": -20...+120°C |
| Inlet pressure | max. 18bar |
| Pressure drop | 0,1...0,4bar |
| Closing values | see tables |
| Flow direction | is marked by an arrow |
| Mounting type | Installation in rigid piping system |
| Mounting position | any |
| Special versions | other closing values, Stainless steel |
| Note | The hose rupture safety device must always be mounted on the permanently installed compressed air supply system (pipe, fittings, etc.) - Never on the hose itself! |

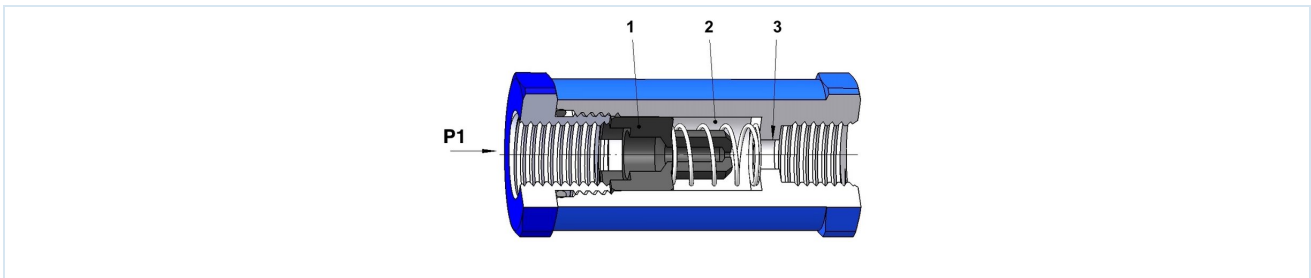


Dimensions



| Connection | DN [mm] | A [mm] | B | ØC | SW | Pressure range [bar] | Connection type | Weight [g] | Type |
|------------|---------|--------|------|----|----|----------------------|-------------------|------------|---------|
| 1/4" | 6 | 58,5 | 48,5 | - | 22 | 0...18 | internal/external | 36 | HB01-14 |
| 3/8" | 10 | 69,5 | 58 | - | 27 | 0...18 | internal/external | 62 | HB01-38 |
| 1/2" | 12 | 79 | 64 | - | 30 | 0...18 | internal/external | 85 | HB01-12 |
| 1/4" | 6 | 49 | - | - | 22 | 0...18 | female/female | 30 | HB02-14 |
| 3/8" | 10 | 58 | - | - | 27 | 0...18 | female/female | 58 | HB02-38 |
| 1/2" | 12 | 65 | - | - | 30 | 0...18 | female/female | 78 | HB02-12 |
| 3/4" | 19 | 76 | - | 36 | 30 | 0...18 | female/female | 107 | HB02-34 |
| 1" | 25 | 100 | - | 50 | 41 | 0...18 | female/female | 300 | HB02-10 |
| 2" | 40 | 130 | - | 80 | 70 | 0...18 | female/female | 775 | HB02-20 |

Functionality



| | |
|---|--|
| 1 | The air supply is via P1. |
| 2 | The air flow passes the poppet (1) and flows through the seat (3). |
| 3 | The flow is slowed down by longitudinal grooves on the top side of the plunger. |
| 4 | In the event of excessive flow, the air cannot pass the plunger quickly enough and pushes it against the spring (2) underneath in the direction of the seat. |
| 5 | The maximum flow rate is shown in the diagrams "Closing values" |
| 6 | If the flow exceeds this value, the air supply is automatically blocked. |



Closing values

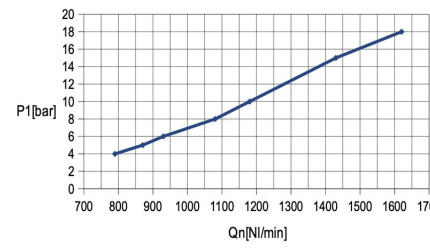
| P1 [bar] | Δp [bar] | Closing values Qn [NI/min] | Type HB...-14 |
|----------|------------------|-------------------------------|------------------|
| 4 | 0,4 | 560 | |
| 5 | 0,4 | 610 | |
| 6 | 0,4 | 670 | |
| 8 | 0,4 | 760 | |
| 10 | 0,4 | 830 | |
| 15 | 0,4 | 1010 | |
| 18 | 0,4 | 1100 | |

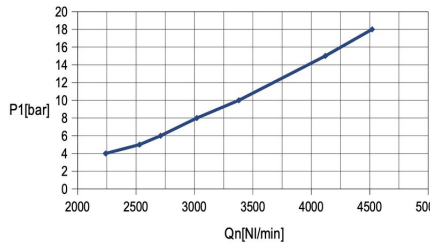
| P1 [bar] | Δp [bar] | Closing values Qn [NI/min] | Type HB...-14-LF |
|----------|------------------|-------------------------------|---------------------|
| 4 | 0,06 | 37 | |
| 5 | 0,06 | 41 | |
| 6 | 0,07 | 47 | |
| 8 | 0,06 | 52 | |
| 10 | 0,07 | 58 | |
| 15 | 0,07 | 68 | |
| 18 | 0,07 | 74 | |

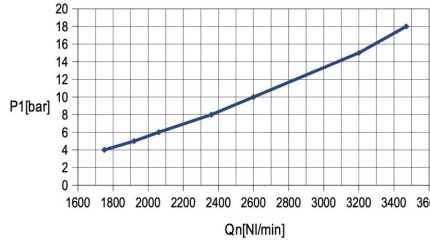
| P1 [bar] | Δp [bar] | Closing values Qn [NI/min] | Type HB...-14-HF |
|----------|------------------|-------------------------------|---------------------|
| 4 | 1,0 | 780 | |
| 5 | 1,0 | 850 | |
| 6 | 0,9 | 900 | |
| 8 | 0,9 | 990 | |
| 10 | 0,9 | 1090 | |
| 15 | 0,9 | 1340 | |
| 18 | 0,9 | 1460 | |

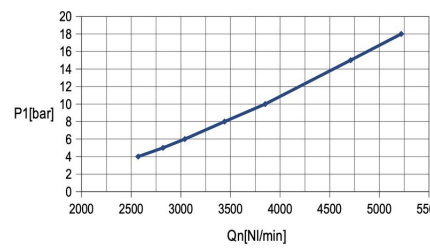
| P1 [bar] | Δp [bar] | Closing values Qn [NI/min] | Type HB...-38 |
|----------|------------------|-------------------------------|------------------|
| 4 | 0,19 | 790 | |
| 5 | 0,20 | 870 | |
| 6 | 0,19 | 930 | |
| 8 | 0,20 | 1080 | |
| 10 | 0,21 | 1180 | |
| 15 | 0,20 | 1430 | |
| 18 | 0,20 | 1620 | |



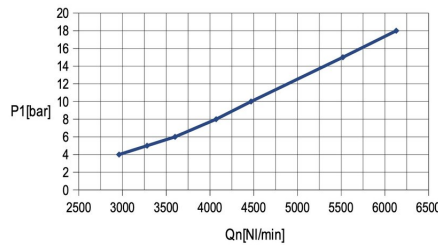
| P1 [bar] | Δp [bar] | Closing values Qn [Nl/min] | Type HB...-38-HF |
|----------|------------------|-------------------------------|--|
| 4 | 0,23 | 1090 |  |
| 5 | 0,23 | 1200 | |
| 6 | 0,22 | 1290 | |
| 8 | 0,22 | 1450 | |
| 10 | 0,23 | 1620 | |
| 15 | 0,23 | 1960 | |
| 18 | 0,23 | 2150 | |

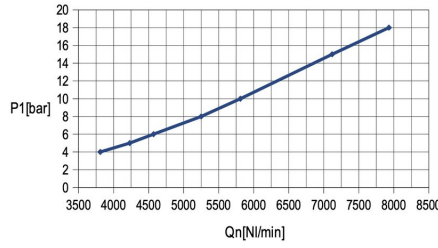
| P1 [bar] | Δp [bar] | Closing values Qn [Nl/min] | Type HB...-12 |
|----------|------------------|-------------------------------|--|
| 4 | 0,35 | 2240 |  |
| 5 | 0,35 | 2530 | |
| 6 | 0,35 | 2710 | |
| 8 | 0,36 | 3020 | |
| 10 | 0,37 | 3380 | |
| 15 | 0,37 | 4120 | |
| 18 | 0,36 | 4520 | |

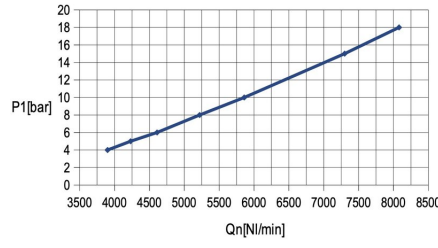
| P1 [bar] | Δp [bar] | Closing values Qn [Nl/min] | Type HB...-12-LF |
|----------|------------------|-------------------------------|---|
| 4 | 0,26 | 1750 |  |
| 5 | 0,26 | 1920 | |
| 6 | 0,26 | 2060 | |
| 8 | 0,26 | 2360 | |
| 10 | 0,25 | 2600 | |
| 15 | 0,24 | 3200 | |
| 18 | 0,24 | 3470 | |

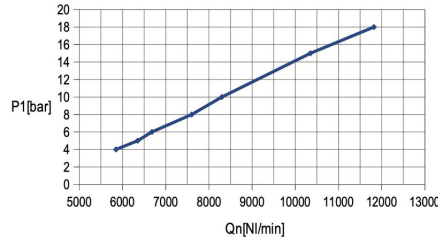
| P1 [bar] | Δp [bar] | Closing values Qn [Nl/min] | Type HB...-12-HF |
|----------|------------------|-------------------------------|--|
| 4 | 0,41 | 2570 |  |
| 5 | 0,41 | 2820 | |
| 6 | 0,40 | 3040 | |
| 8 | 0,41 | 3440 | |
| 10 | 0,42 | 3850 | |
| 15 | 0,42 | 4710 | |
| 18 | 0,41 | 5220 | |



| P1 [bar] | Δp [bar] | Closing values Qn [NI/min] | Type HB...-34 |
|----------|------------------|-------------------------------|--|
| 4 | 0,24 | 6130 |  |
| 5 | 0,24 | 5520 | |
| 6 | 0,25 | 4470 | |
| 8 | 0,24 | 4070 | |
| 10 | 0,25 | 3380 | |
| 15 | 0,25 | 4120 | |
| 18 | 0,25 | 4520 | |

| P1 [bar] | Δp [bar] | Closing values Qn [NI/min] | Type HB...-34-HF |
|----------|------------------|-------------------------------|--|
| 4 | 0,31 | 3810 |  |
| 5 | 0,31 | 4230 | |
| 6 | 0,31 | 4570 | |
| 8 | 0,29 | 5250 | |
| 10 | 0,3 | 5810 | |
| 15 | 0,29 | 7120 | |
| 18 | 0,29 | 7930 | |

| P1 [bar] | Δp [bar] | Closing values Qn [NI/min] | Type HB...-10 |
|----------|------------------|-------------------------------|---|
| 4 | 0,20 | 3900 |  |
| 5 | 0,20 | 4230 | |
| 6 | 0,21 | 4610 | |
| 8 | 0,22 | 5220 | |
| 10 | 0,21 | 5860 | |
| 15 | 0,20 | 7300 | |
| 18 | 0,21 | 8080 | |

| P1 [bar] | Δp [bar] | Closing values Qn [NI/min] | Type HB...-10-HF |
|----------|------------------|-------------------------------|--|
| 4 | 0,26 | 5850 |  |
| 5 | 0,27 | 6350 | |
| 6 | 0,27 | 6680 | |
| 8 | 0,27 | 7600 | |
| 10 | 0,27 | 8300 | |
| 15 | 0,27 | 10350 | |
| 18 | 0,27 | 11820 | |



| P1 [bar] | Δp [bar] | Closing values Qn [NI/min] | Type HB...-20 |
|----------|------------------|-------------------------------|------------------|
| 4 | 0,13 | 9290 | |
| 5 | 0,13 | 10320 | |
| 6 | 0,13 | 11360 | |
| 8 | 0,13 | 12920 | |
| 10 | 0,13 | 14280 | |
| 15 | 0,13 | 17220 | |
| 18 | 0,13 | 18540 | |

Selection of the correct hose rupture safety valve

| | |
|---|---|
| 1 | <p>Selecting the correct size is of utmost importance. The flow rate must be sufficient for normal operation and, in the event of a hose or pipe rupture, the hose rupture safety device must trip. If the flow rate is too low, the hose rupture safety device does not close. The correct size must be confirmed with a functional test.</p> <p>The hose rupture safety valve closes when the corresponding flow rate is reached with a tolerance of +/- 10%.</p> |
| 2 | <p>Relevant for size selection (dimensioning) are:</p> <ul style="list-style-type: none"> Pressure at the hose rupture safety device (P1) Air consumption of the tool at which pressure Inner diameter of the hose Hose length Nominal size of compressed air fittings (pressure regulators, couplings, coupling plugs) upstream and downstream of the hose rupture safety device |
| 3 | <p>Air consumption of the tool:</p> <p>The maximum air consumption of the tool and the required pressure are decisive for determining the correct hose rupture safety device. If the air consumption at the tool is not known, it must be measured. Theoretical specifications are insufficient and may lead to malfunctions. Using the flow rate value and the shut-off point table, the correct hose rupture safety valve can now be determined.</p> <p>As a rule of thumb, the hose rupture safety valve should provide at least 20% more flow rate, than the tool requires during normal operation.</p> |
| 4 | <p>Inner diameter of the hose:</p> <p>The following values must be observed as guideline values for the minimum internal diameter.</p> <p>1/4" = 6mm, 3/8" = 8mm, 1/2" = 13mm, 3/4" = 16mm, 1" = 19mm, 2" = 40mm</p> |
| 5 | <p>Hose length:</p> <p>Very long hoses can cause a pressure drop at the hose end and lead to a reduction in flow rate. This means the function of the hose rupture safety device is no longer guaranteed.</p> <p>If the internal diameter is increased, the hose can be extended.</p> |
| 6 | <p>Nominal size of compressed air fittings (pressure regulators, couplings, coupling plugs):</p> <p>The nominal diameter of the compressed air valves must be at least equal to the nominal diameter (DN) of the hose rupture safety device.</p> |
| 7 | <p>Example:</p> <p>Air consumption Tool = 700NI/min +20% Safety = 840NI/min, Pressure 6bar</p> <p>Result: For the example, the hose rupture safety device G3/8" is the correct size.</p> |

Application example

